UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

April 17, 2017

Derek J. Robinson, BRAC Environmental Coordinator
Department of the Navy
Base Realignment and Closure Program Management Office West
33000 Nixie Way, Building 50
San Diego, CA 92147

Re: EPA Comments on the Draft Interim Remedial Action Completion Report, Parcel C Remedial Action, Remedial Units C1, C4, and C5, and Building 241 (Excludes C2), Hunters Point Naval Shipyard, San Francisco, California, February 2017

Dear Mr. Robinson:

Attached are EPA's comments on the Draft Interim Remedial Action Completion Report, Parcel C Remedial Action, Remedial Units C1, C4, and C5, and Building 241 (Excludes C2), Hunters Point Naval Shipyard, San Francisco, California, dated February 2017.

If you have any questions, please do not hesitate to call me at (415) 972-3681 or e-mail me at huang.judy@epa.gov.

Sincerely,

Judy C. Huang, P.E.
Remedial Project Manager

cc:

Nina Bacey, DTSC (via email)
Tina Low, RWQCB (via email)
Amy Brownell, SFDPH (via email)
Anthony Konzen, US Navy (via email)
Danielle Janda, US Navy (via email)

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Review of the Draft Interim Remedial Action Completion Report, Parcel C Remedial Action, Remedial Units C1, C4, and C5, and Building 241 (Excludes C2), Hunters Point Naval Shipyard, San Francisco, California, February 2017

GENERAL COMMENTS

1. To assist the reader in better understanding of the overall cleanup progress at Parcel C, please provide a table detailing the cleanup status by remedial unit, media and sub area for the entire Parcel C in the Executive Summary or the Site Background section.

2. It appears that the decision to transition to long-term monitoring is premature for some of the groundwater plumes. According to Section 10.1.2 (Groundwater Treatment Areas), "[G]roundwater treatment criteria were met in accordance with the Final ROD (Navy, 2010) and the RIP [Remedy in Place] milestone has been achieved at Plumes C1-2, C1-4, C4-1, C5-2, C5-3, and C5-4. These groundwater treatment areas, along with Plume C5-5 where contaminant concentrations were reduced to just above ISB [in-situ bioremediation] treatment criteria, will move into the MNA [monitored natural attenuation] phase and continue to be monitored under the basewide groundwater monitoring program." However, the conclusion that these plumes can be moved to the MNA phase and be monitored under the basewide groundwater monitoring program is based on limited performance monitoring. As a result, it is unclear if sufficient time was provided for the zero valent iron (ZVI) and ISB treatment amendment (e.g., 2-3 years for micro-scale ZVI) to be consumed such that a period of long-term monitoring to evaluate potential rebound and MNA can begin. Based on Section 8.5 (In Situ Bioremediation and Zero-Valent Iron Post-Injection Performance Monitoring) of the Final Work Plan, Parcel C Remedial Action, Remedial Units C1, C4, and C5, and Building 241 (Excludes C2), Hunters Point Naval Shipyard, San Francisco, California, dated August 2013 (Final RAWP), a period of long-term monitoring to evaluate potential rebound and MNA can begin if chlorinated volatile organic compound (CVOC) concentrations in the treatment areas are reduced below the ISB treatment criteria. However, it remains unclear if data from such a limited data set collected over 6 to 12.5 months (e.g., three monitoring events at Plumes C5-3, C5-4, and C-5-5) is sufficient to support a transition to long-term monitoring. For example,

   a. **Plume C1-2:** Based on Table 5-2 (Analytical Results for Groundwater at Plume C1-2), the conclusion to move Plume C1-2 to the MNA phase is based on eight monitoring events which occurred within 321 days following injection activities.

   b. **Plume C1-4:** Based on Table 5-3 (Analytical Results for Groundwater at Plume C1-4), the conclusion to move Plume C1-4 to the MNA phase is based on nine monitoring events which occurred with 318 days following injection activities.

   c. **Plume C4-1:** Based on Table 5-4 (Analytical Results for Groundwater at Plume C4-1), the conclusion to move Plume C4-1 to the MNA phase is based on eight monitoring events which occurred with 379 days following injection activities.

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d. **Plume C5-2:** Based on Table 5-6 (Analytical Results for Groundwater at Plume C5-2), the conclusion to move Plume C5-2 to the MNA phase is based on eight monitoring events which occurred with 323 days following injection activities.

e. **Plume C5-3:** Based on Table 5-9 (Analytical Results for Groundwater at Plume C5-3), the conclusion to move Plume C5-3 to the MNA phase is based on three monitoring events which occurred with 183 days following injection activities.

f. **Plume C5-4:** Based on Table 5-10 (Analytical Results for Groundwater at Plume C5-4), the conclusion to move Plume C5-4 to the MNA phase is based on three monitoring events which occurred with 182 days following injection activities.

g. **Plume C5-5:** Based on Table 5-11 (Analytical Results for Groundwater at Plume C5-5), the conclusion to move Plume C5-5 to the MNA phase is based on three monitoring events which occurred with 181 days following injection activities. It should be noted that the August 17, 2016 1,4-dichlorobenzene concentration at IR25MW64A in Plume C5-5 exceeds the ZVI or ISB treatment criteria despite the recommendation to transition to the MNA phase.

This is of particular concern given the rainfall events experienced in San Francisco during January/February 2017 ([HYPERLINK "http://www.cnrfc.noaa.gov/monthly_precip.php"]) and the potential for matrix back diffusion, dilution of treatment amendments, changes in water quality parameters, and rebound. Please revise the I-RACR to discuss why the data from the monitoring events is sufficient to transition to long-term monitoring. Specifically, please clarify whether sufficient time was provided for consumption of the ZVI and ISB amendments on a plume-by-plume basis. In addition, please revise the I-RACR to include resampling to ensure matrix back diffusion, dilution of treatment amendments, changes in water quality parameters, and rebound are sufficiently evaluated.

3. According to Section 3.9 (Well Decommissioning), Figure 3-10 (Decommissioned Well Locations) shows the locations of decommissioned wells; however, well abandonment logs for several decommissioned wells shown on Figure 3-10 are not included in Appendix G (Well Abandonment Logs) (e.g., IR30MW01F, IR30MW03F, IR29MW72F, IR30MW04F). It should be noted that Table 3-2 (List of Decommissioned Wells) indicates that these wells were previously decommissioned. In addition, Appendix G does not include the California Department of Water Resource Form 188 for these wells or IR30MW02F. Please ensure that all well abandonment logs and forms associated with the decommissioned wells shown on Figure 3-10 are included in Appendix G. Alternatively, a footnote could be added to Figure 3-10 to indicate where Well Abandonment Logs and the California Department of Water Resource forms for these previously decommissioned wells can be found.

4. While Section 4.1 (Excavation of Contaminated Soil) states that "In the event that LNAPL [light non-aqueous phase liquid] was encountered in an excavation, the product was contained and absorbed using absorbent booms and/or pads before resuming excavation," the text does not discuss the segregation, storage, and/or sampling of soils

and/or materials potentially containing high concentrations of oil. According to Section 6.1.3 (Floating Product) of the Final Work Plan, Parcel C Remedial Action, Remedial Units C1, C4, and C5, and Building 241 (Excludes C2), Hunters Point Naval Shipyard, San Francisco, California, dated August 2013 (Final RAWP), "Soils and/or material containing high concentrations of oil will be segregated, stored in appropriate containers or equivalent, and sampled separately to ensure that the waste is correctly characterized prior to disposal by the Navy's HPNS basewide waste transport and disposal contractor." Based on Photograph Nos. 13, 21, and 86 in Appendix F (Photographic Log), floating product was observed in Excavations 22-1 and 10-3. As a result, it is unclear if soils and/or groundwater associated with these excavations were segregated and/or sampled to ensure the waste was correctly characterized prior to disposal. Please revise the I-RACR to clarify how soils and/or groundwater associated with Excavations 22-1 and 10-3 were segregated and/or sampled to ensure the waste was correctly characterized prior to disposal, in accordance with the Final RAWP.

5. The potential displacement of contaminants during ZVI and/or ISB injections is not sufficiently discussed. For example, the Chlorinated Volatile Organic Compounds, Ethene, and Ethane subsection of Section 5.2.5.2 (Plume C1-2) states, "The observed increase in CVOC concentrations during the first post-injection sampling even was likely due to the redistribution of CVOC mass in the subsurface due to the injection process," but does not discuss the potential downgradient displacement of contaminants. This is of particular concern at Plume C1-2 due to the proximity of the plume to the seawall at Dry Dock 2, which is an impermeable barrier. Similarly, surface heaving was observed during several injections (e.g., Plumes C1-1, C1-2, C1-4, C4-1, C5-1, and C5-2); however, information regarding actions taken to reduce and/or prevent surface heaving are not discussed. Please revise the I-RACR to discuss the potential displacement of contaminants due to ZVI and/or ISB injections. In addition, please revise the I-RACR to discuss actions taken to reduce and/or prevent surface heaving observed during injections.

6. Based on Section 6.5.3 (Subsurface Soil Vapor Volatile Organic Compound Concentration Reduction), photoionization detector (PID) measurements were utilized to: (1) evaluate the rate of decline in the system influent and within the well field; and, (2) evaluate changes in the subsurface soil vapor concentrations as a result of soil vapor extraction (SVE) treatment; however, PID measurements at other Hunters Point Naval Shipyard (HPNS) areas were found to have little relationship to analytical laboratory analyses using EPA Methods TO-14 or TO-15 (e.g., IR-10 in Parcel B). As a result, it is unclear if the conclusions drawn solely on PID measurements are appropriate and representative. Further, it is unclear why the EPA Method TO-15 data were not utilized to validate the mass removal calculations provided for the SVE systems. Please revise the I-RACR to clarify why conclusions drawn solely on PID measurements are appropriate and representative given that PID measurements at other HPNS areas were found to have little relationship to analytical laboratory analyses using EPA Methods TO-14 or TO-15. In addition, please revise the I-RACR to clarify why EPA Method TO-15 data was not utilized to validate the mass removal calculations provided for the SVE systems.

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7. Figures 6-21 [Volatile Organic Compounds (VOC) Mass Removal at SVE Areas 6 and 7 (Building 231), RU-C1], 6-22 [Volatile Organic Compounds (VOC) Mass Removal at SVE Area 8 (Building 253/211), RU-C1], 6-23 [Volatile Organic Compounds (VOC) Mass Removal at SVE Area 1 (Building 272/281), RU-C4], and 6-24 [Volatile Organic Compounds (VOC) Mass Removal at SVE Area 3, RU-C5] do not indicate that asymptotic conditions were achieved. For example, Figure 6-24 appears to flattening at the end of the monitoring prior due to system shutoff for maintenance and accommodation of groundwater injection activities near SVE Area 3 but it does not appear that asymptotic conditions were achieved. Similarly, Section 9.3 (Effectiveness of Soil Vapor Extraction Remedy) does not discuss whether asymptotic conditions were achieved or why the systems were shutdown prior to achieving asymptotic conditions. Please revise Figures 6-21 through 6-24 to indicate that asymptotic conditions were achieved. In addition, please ensure the I-RACR discusses whether asymptotic conditions were achieved and why the systems were shutdown prior to achieving asymptotic conditions.

SPECIFIC COMMENTS

1. **Section 2.2.3, Treatability Studies, Pages 2-6 to 2-8:** Section 2.2.3 discusses the past treatability studies at Parcel C including remediation of VOCs in groundwater using chemical oxidation, ZVI injection, and anaerobic-aerobic bioremediation techniques; however, Section 2.2.3 does not whether rebound occurred or was evaluated during these treatability studies. Please revise Section 2.2.3 to discuss whether rebound occurred or was evaluated during these treatability studies.

2. **Section 4.1, Excavation of Contaminated Soil, Page 4-1:** Section 4.1 indicates that when underground piping or utilities were encountered within an excavation footprint, the items were assessed, removed if practical, segregated, and temporarily stockpiled; however, the text does not discuss the actions that were taken if removal of the underground piping or utilities was not practical. For example, Section 4.1.1.1 (Excavation 22-1) indicates that adjacent to the buried crane rail system within Excavation 22-1, a masonry vault was uncovered and left in place. However, details regarding how this vault was left in place are not provided and/or referenced. Please revise the I-RACR to discuss the actions that were taken if removal of the underground piping or utilities was not practical.

3. **Section 4.1.1.1, Excavation 22-1, Pages 4-3 to 4-5:** Based on Section 6.1.3 (Floating Product) of the Final RAWP, LNAPL within well IR28MW129A will pumped with a peristaltic pump or equivalent prior to the abandonment of the well; however, details regarding this project removal, beyond a footnote on Table 3-2 (List of Decommissioned Wells), are not provided and/or referenced. Please revise Section 4.1.1.1 to discuss the removal of LNAPL within well IR28MW129A prior to the abandonment of well IR28MW129A.

4. **Section 4.1.2.1, Excavation 23-1, Page 4-7:** The text indicates that sample results high in manganese (i.e., 23-1G-B01, 23-1G-SW01, and 23-1G-SW03) were encountered from Excavation 23-1 and that it was determined that the manganese levels were naturally

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occurring in the bedrock; however, information to substantiate this conclusion are not provided and/or referenced. Please revise Section 4.1.2.1 to provide and/or reference information to substantiate that the sample results high in manganese are naturally occurring in the bedrock encountered at Excavation 23-1.

5. **Section 4.1.2.1, Excavation 23-1, Pages 4-6 to 4-8 and Figure 4-5, Excavation Area 23-1 and Section 4.1.2.4, Excavation 24-1, Pages 4-9 to 4-10 and Figure 4-8, Excavation Area 24-1:** Based on Figure 4-5, two confirmation samples (23-1D-SW06-7' and 23-1C-SW02-3') that were left in place due to encountering the foundation of Building 203 had mercury detections above the ROD Residential Remediation Goal and the Tier 1 Remedial Action Level; however, Section 4.1.2.1 does not discuss the potential for mercury vapor intrusion (VI) at Building 203. Similarly, Figure 4-8 (Excavation Area 24-1) indicates that mercury was detected above the ROD Residential Remediation Goal and the Tier 1 Remedial Action Level in an excavation bottom sample location adjacent to Building 271 (24-1-B04-12'); yet, Section 4.1.2.4 (Excavation 24-1) does not discuss the potential for mercury vapor intrusion at Building 271. Please revise the I-RACR to acknowledge the potential for mercury VI and to recommend that this potential be evaluated during the future sampling to determine the Parcel C Areas Requiring Institutional Controls (ARICs) at Buildings 203 and 271, given the adjacent exceedances of mercury cleanup levels.

6. **Section 4.2, Underground Storage Tank Closure, Page 4-24:** The text states, "In both SVE wells IR28V4-07A and IR28V4-08A, the February 2016 soil vapor VOC concentrations measured with a PID were reduced to below the detection limit (Figure 6-30); demonstrating successful treatment of CVOCs in soil/soil vapor in the area of the former USTs;" however, information other than the PID measurements (e.g., TO-15 data) is not provided to substantiate this conclusion. Further, Section 4.2 does not discuss how rebound was evaluated using PID measurements to determine successful treatment of CVOCs in soil/soil vapor in the area of the former USTs. Please revise Section 4.2 to present information to substantiate the PID measurements that CVOCs were successfully treated in soil/soil vapor in the area of the former USTs. In addition, please revise Section 4.2 to discuss how rebound was evaluated using PID measurements to determine successful treatment of CVOCs in soil/soil vapor in the area of the former USTs.

7. **Section 5.2.1, Remediation Performance Monitoring Well Installation (2013), Page 5-9:** Section 5.2.1 states, "Newly installed monitoring wells were sampled no sooner than 48 hours after well development to allow for aquifer conditions to equilibrate;" however, it is unclear that sampling 48 hours after development was appropriate for equilibration with the aquifer. Generally, one to two weeks is required for equilibration to occur and more time may be required for wells completed in fine-grained materials. Please revise Section 5.2.1 to clarify why sampling 48 hours after development was appropriate for equilibration with the aquifer.

8. **Section 5.2.5.5, Plume C5-1, Page 5-29 and Figure 5-41a, Dissolved Oxygen (DO) Versus Time at Plume C5-1 Monitoring Wells:** Figure 5-41a indicates that a low dissolved oxygen (DO) concentration was not maintained at IR06MW22A, but does not discuss this occurrence in Section 5.2.5.5. As such, it is unclear if reductive

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dechlorination occurred at the end of the monitoring period. While Section 5.2.5.5 discusses the establishment of suitable conditions, please ensure that Section 5.2.5.5 is revised to discuss conditions at the end of the monitoring period.

9. **Section 6.4.2.1, Remedial Unit-C1/Soil Vapor Extraction Areas 6 and 7, Pages 6-16 and 6-17:** Section 6.4.2.1 states, "The highest PID reading was recorded on March 18, 2015, at the soil-gas monitoring point IR28SG561, located in the eastern end of SVE Area 7. This reading is considered an anomaly since there were no other PID readings recorded over 2 ppmv [parts per million per volume] other than this elevated detection on March 18, 2015;" however, no additional sampling was conducted to address this apparent anomaly. Similarly, the text states, "The only substantial VOC increase (from 0.3 to 15.8 ppmv by PID) was recorded at VM [vapor monitoring] well IR28SG628, located at the northeastern corner of SVE Area 6. This PID detection is suspected to be an anomaly, as VOCs [volatile organic compounds] had not been detected above 10 ppmv since monitoring began in April 2015" yet, no additional sampling was conducted to address this apparent anomaly. Typically, when anomalies are observed, measurements are repeated to ensure the concentrations can be verified. Please revise Section 6.4.2.1 to clarify how these apparent anomalies will be verified and/or addressed given the lack of confirmation sampling.

10. **Section 6.5.3.2, Remedial Unit-C1/Soil Vapor Extraction Area 8, Page 6-29 and Figure 6-28, Soil Vapor VOC Concentration Changes during SVE Treatment at Area 8:** Based on Figure 6-28, the TCE concentration at IR28SG590 increased from 780 micrograms per cubic meter (ug/m^3) (After 2 Months) to 1,400 ug/m^3 (After 17 Months); however, Section 6.5.3.2 does not discuss why the TCE concentration in IR28SG590 increased. Also, it is unclear from Section 6.5.3.2 whether the TCE concentration in IR28SG590 will be evaluated in a follow-on contract. Please revise Section 6.5.3.2 to discuss the TCE concentration increase in IR28SG590 between the 2 month and 17 month measurements. In addition, please ensure that the TCE concentration in IR28SG590 will be evaluated in a follow-on contract.

11. **Section 6.5.3.3, Remedial Unit-C4/Soil Vapor Extraction Area 1, Pages 6-30 to 6-31 and Figure 6-30, Soil Vapor VOC Concentration Changes During SVE Treatment at Area 1:** Based on Figure 6-30, several VOC concentrations remain elevated following 17 months of SVE treatment at Area 1 (e.g., IR28SG539, IR28SG534), but Section 6.5.3.3 makes no commitment to evaluate these VOC concentrations in a follow-on contract. This is of particular concern given the likelihood of rebound to occur. Please revise Section 6.5.3.3 to ensure that VOC concentrations in Area 1 are evaluated during the follow-on contract.

12. **Section 7.1, Soil and Construction Debris, Pages 7-1 to 7-3 and Table 4-23, Soil Stockpile Summary for Parcel C:** Based on Table 4-23, Stockpiles 1, 4, 6, 7, 8, 9, and 12 included soils from multiple excavations; however, Section 7.1 does not discuss the initial segregation of soils from different sources or the assessment of the soils prior to combining soils from different sources. According to Section 3.1 (Waste Accumulation and Storage) of Appendix D (Final Waste Management Plan) of the Final RAWP, "The Site Superintendent will ensure wastes from different sources are additionally segregated

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by each individual source. The T&D [Transportation and Disposal] Coordinator will then review available information and determine whether the wastes from different sources can be commingled for both cost and handling efficiency." Please revise Section 7.1 to discuss how the soils were initially segregated and then combined in accordance with the Final RAWP.

13. **Section 7.1, Soil and Construction Debris, Page 7-2:** Section 7.1 states, "On September 27, 2013, during excavation activities at Excavation 23-1, material that appeared to be grit blast from prior ship cleaning activities was encountered;" however, the text does not clarify why the material was suspected of being grit blast. For example, it is unclear if paint chips were observed in the material implying that it was used grit blast. Please revise Section 7.1 to provide additional details regarding how the suspected grit blast was identified.

14. **Section 7.1, Soil and Construction Debris, Page 7-2:** It is unclear how it was determined that reused concrete was "clean." Section 7.1 indicates that clean concrete that was removed as part of the excavation activities was reused onsite (e.g., bridging material in deeper excavations with standing groundwater). However, details regarding the sampling and analysis of the concrete (e.g., discrete or wipe samples) to confirm the concrete was clean are not provided and/or referenced. Please revise Section 7.1 to provide and/or reference information to substantiate that the concrete was clean prior to reuse onsite.

15. **Section 7.6, Wastewater, Page 7-5:** Several of the photographs in Appendix F (Photographic Log) show excavations containing water (e.g., Photograph Nos. 13, 15, 18, 19, 21, 23, 24, 34, 35, 42, 43, 66, 68), but Section 7.6 does not discuss whether dewatering was conducted. If dewatering did occur, details regarding how water was containerized, sampled, analyzed, and disposed are not provided and/or referenced. Please revise Section 7.6 to clarify whether dewatering of the excavations containing water occurred. If dewatering did occur, please revise the I-RACR to include details regarding the containerization, sampling, analysis, and disposal of the water.

16. **Section 9.2, Effectiveness of the Groundwater Remedy, Pages 9-2 to 9-3:** Section 9.2 does not consider rebound. Resampling is merited to evaluate whether rebound has occurred. Please revise the Draft I-RACR to discuss the potential for rebound and identify the plumes where rebound could occur.

17. **Figure 4-7, Excavation Area 23-3:** The depth of Excavation Area 23-3 is not provided and/or referenced on Figure 4-7. As a result, the depth at which bedrock was encountered is not clearly defined as no bottom confirmation sample was collected. It should be noted that Section 4.1.2.3 (Excavation 23-3) does not indicate the depth at which bedrock was encountered. Please revise all excavation figures provided in the I-RACR to specify the approximate depths of each excavation area.

18. **Figure 4-18, Excavation Area 11-1:** It is unclear why excavation sidewall sample location 11-1-SW04 is located approximately 10 feet beyond the excavation area. Please

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revise Figure 4-18 to clarify why the excavation sidewall sample location is located approximately 10 feet beyond the excavation area.

19. **Figure 6-16, Vapor Concentrations Measured using Photoionization Detector (PID) at Vapor Monitoring Wells/Soil Gas Probes at SVE Area 1 – Building 272/281, RU-C4:** The scale of Figure 6-16 is not suitable for the data. As a result, the vapor concentrations measured at SVE Area 1 cannot be distinguished and evaluated. It may be necessary to include wells with lower concentrations on a separate figure. Please revise Figure 6-16 to ensure the vapor concentrations measures at all SVE Area 1 wells are readable or provide another figure that includes wells with lower concentrations.

20. **Appendix F, Photographic Log, Photograph No. 8:** Photograph No. 8 shows the upwind air monitoring station and generator, but a photograph of the downwind air monitoring station and generator is not provided. Please revise the I-RACR to include a photograph of the downwind monitoring station and generator, if available.

21. **Appendix F, Photographic Log, Photograph No. 40:** Photograph No. 40 shows contaminated soil being loaded into a dump truck for relocation to a stockpile area; however, Section 6.1 (Excavation) of the Final RAWP indicates that plastic sheeting will be used in areas of underlying clean soil to minimize risk from cross contamination during placement of excavated soil into haul trucks. Please revise the I-RACR to clarify why plastic sheeting was not utilized during the loading of excavated soil into haul trucks.

22. **Appendix L, Compaction Testing Summaries, Report 01 – Compaction Inspection Report for Imported Soil from Borrow Site:** The Daily Inspection Report for August 26, 2013 is blank, but an explanation is not provided in the I-RACR to clarify why this report is blank. It should be noted that Section 4.3.1 (Building 281 Solvent Line) indicates that the former solvent line excavation area outside Building 281 was backfilled and the surface area restored on August 26, 2013. Please provide the missing information or revise the I-RACR to clarify why the Daily Inspection Report for August 26, 2013 is blank.

23. **Appendix L, Compaction Testing Summaries, Report 06 – Compaction Testing Results for Excavation 24-1 and Report 07 – Compaction Testing Results for SVE Area 3 Trench:** The April 17, 2014 and February 12, 2016 Daily Compaction Test Reports indicates that the relative density compaction specification is 95 percent; however, information to support this criterion is not provided and/or referenced. It should be noted that Section 6.3 (Backfill Placement and Compaction Testing) of the Final RAWP discusses compaction of soil to 90 percent relative density but not 95 percent. Please revise the I-RACR to clarify why this relative density compaction specification was utilized at these two excavations and not elsewhere.

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